

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL DIGITAL LEARNING FOR DEVELOPMENT IN ASIA: FINAL TECHNICAL REPORT (REVISED)

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Digital Learning for Development in Asia

Final Technical Report

by Cher Ping Lim and Victoria L. Tinio

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I. Executive Summary

Digital Learning for Development (DL4D) is part of the Information Networks in Asia and Sub-Saharan Africa (INASSA) program funded jointly by the International Development Research Centre (IDRC) of Canada and the Department for International Development (DFID) of the United Kingdom, and administered by the Foundation for Information Technology Education and Development (FIT-ED) of the Philippines. The DL4D project sought to achieve the following overall and specific objectives:

Overall Objective. To improve educational systems in developing countries in Asia through testing digital learning innovations and scaling proven ones

Objective 1. To test digital learning innovations to better understand how they digital learning innovations contribute to improved educational equity, quality, and efficiency in developing countries in Asia

Objective 2. To deepen research on digital learning innovations through fostering international collaboration and partnerships on digital learning innovations research in developing country contexts in Asia and the rest of the world

Objective 3. To inform digital learning innovation-related educational policy-making and action at national and sub-national levels in developing countries in Asia.

This final technical report highlights key learnings from research activities conducted by the DL4D Network, which generated 11 digital learning innovation studies, 19 expert papers and meta-reviews, and two policy and practice guides; describes the strategies and activities undertaken by the Network to foster north-south and south-south collaboration to, in turn, deepen understanding of the thematic areas covered by the project; and discusses the knowledge-sharing and stakeholder engagement activities undertaken by the project to help inform policy and practice at international, regional, national and sub-national levels. The report concludes with a discussion of problems and challenges encountered in the course of project implementation, as well as an overall assessment of the project and key recommendations arising from the experience.

II. Research on Digital Learning Innovations

Our research goal was to examine how digital learning may be used in developing countries in Asia to address issues of equity, quality, and efficiency at all educational levels, from early childhood to higher and continuing education, in formal, non-formal, and informal settings. We aimed to answer the following general research questions:

1. How, to what extent, and under what conditions are equity, quality, and efficiency goals being met through the adoption of digital learning innovations?
2. What are the requirements for the localization and customization of digital learning innovations given the diversity of developing country contexts?
3. What are the prospects for sustainability of effective digital learning innovations?
4. What are the possibilities and limitations for scaling up effective digital learning innovations?

We organized research around three themes: learning at scale, learning analytics, and digital game-based learning. Sub-themes emerged as our research progressed, namely: teacher professional development at scale (TPD@Scale), cost effectiveness, and ICT and girls in education. The network successfully completed research activities around these themes, as follows:

- 11 digital learning innovation studies in Cambodia, China, Indonesia, Jordan, Mongolia, Nepal, Pakistan, and Philippines;
- 19 expert papers and meta-reviews; and
- 2 policy and practice guides.

See Annex 1 for a list of research activities and publications. Reports and papers are available for download at <http://dl4d.org>.

Key learnings

A review of the findings from DL4D-commissioned research surfaced three key learnings overall.

1. ***The imperative of context.*** The degree to which a digital learning innovation is adapted to the local (developing country) implementation context is critical to its relevance and effectiveness. DL4D research articulates the challenges of localization along several dimensions—curricular-pedagogical, infrastructural, linguistic, socio-cultural, organizational, and economic—and contributes to the limited body of knowledge on localization for developing countries particularly in the emerging research fields of learning at scale and learning analytics. It recognizes that, for the most part, new digital learning modes and practices have emerged from the Global North and are “handed down” to the Global South. This dynamic speaks to a three-pronged concern in the process of localization: ***appropriateness*** of the intervention in terms of learning design and objectives; structural, cultural, and technical ***readiness*** for the intervention given its particular demands; and ***cost***, or whether or not it offers the best value for money compared to other, non-digital alternatives.
2. ***The challenge of scaling learning.*** Learning at scale (or L@S), an emerging field of research, refers to large scale ICT-mediated learning environments, such as massive open online courses (MOOCs), intelligent tutoring systems, open courseware, and professional learning communities, among others—that are either remote or face-to-face and involves little to no intervention from a human teacher. DL4D research suggests that, in general, blended models of L@S, rather than exclusively online and/or machine-based ones, would be more appropriate and effective in developing countries. Blended instruction, which combines digital tools with conventional, analog approaches, would allow for the optimization of the affordances of information and communication technologies (ICT) in developing country contexts where fully online or machine learning is not feasible or, for that matter, desirable. In considering the appropriate blend of digital and traditional approaches to learning on a large scale, at least three key issues should be considered: a) ***differentiation*** of instruction in order to address the varied needs of a diverse range of learners; b) the provision of

effective and sustained **learner support**; and c) the provision of effective formative and summative **assessment**.

3. **The pivotal role of teachers.** DL4D research on digital game-based learning and learning at scale affirm the pivotal role of teachers in learner-centered environments. In cases where teachers are limited in number and/or competency, digital learning innovations can be used as a substitute in ways that support learning, but what the DL4D research suggests is that learning can be best deepened, enriched, and sustained the more local teachers are given the opportunity and the tools to strengthen their pedagogical knowledge and skills, integrate the digital learning tools into the teaching and learning process, and in general, create authentic, context-specific (including gender-sensitive) learning experiences for their students. Continuing professional development for teachers is key, and further research on how ICT can facilitate or enable this, and at large scale, is warranted.

IDRC has commissioned a detailed synthesis of findings from 44 research reports, including those of DL4D, which is incorporated into this report by reference.

III. North-South and South-South Research Collaborations

We employed three strategies to meet the second objective of the project—to deepen research on digital learning innovations through fostering international collaboration and partnerships. First, we ensured that each of the 11 digital learning innovation studies involved north-south and/or south-south collaboration among the researchers, whether through the composition of the research team or through cross-project engagement. Second, the DL4D Network Team included expert mentors (“Theme Advisers”) on MOOCs, intelligent tutoring systems, digital-game based learning, and learning analytics, who worked closely with the research teams throughout the research process, from the revision and finalization of research plans, to data-collection and analysis, to report writing. Third, we formed expert groups in learning at scale, learning analytics, and digital game-based learning to produce discussion papers that: a) considered the state-of-the-art of the field and the extent to which practices have emerged from or have been transferred to the Global South; b) the possibilities and parameters of developing or adopting these emerging practices in the Global South; and c) the issues and challenges that resonate most in the Global South. The compilation of expert papers is comprised of a main discussion paper from a leading international expert and two or more regional responses that offer a Global South perspective on the analysis and recommendations articulated in the main paper from experts from, variously, Africa, Asia, Latin America, and the Middle East.

Collaborations also took the form of co-funded research projects, of which there were six.

- **All Children Reading: A Grand Challenge for Development (ACR-GCD)**, a partnership between the United States Agency for International Development (USAID), World Vision, and the Australian Government, is an ongoing series of competitions that leverages science and technology to create and apply scalable solutions to improve literacy skills of early grade learners in developing countries. DL4D partnered with ACR-GCD to create a special research track on early grade literacy. This

collaboration yielded two digital learning innovations studies (an evaluation of the Total Reading Approach for Children Project Plus in Cambodia and an evaluation of the use by Syrian refugee children in Jordan of the digital games that won the EduApp4Syria Prize Competition) and a guidebook for developing early literacy digital games for developing countries.

- DL4D co-funded a research project on blended learning for higher education in Cambodia with **The Head Foundation**, a regional research center based in Singapore.
- DL4D co-funded the evaluation of a pilot of a blended learning model for teacher professional development in the Philippines with **USAID** through the Philippine-American Fund.
- Cher Ping Lim, the DL4D Network Lead and Principal Investigator, served as section editor for the **Routledge International Handbook of Schools and Schooling in Asia**. DL4D authored chapters for the section, “Digital learning for development of Asian schools,” on digital game-based learning, intelligent tutoring systems, and learning analytics, as well as an introductory chapter that articulated a framework for investigating and understanding digital learning in developing countries in Asia.

IV. Policy and Practice Advocacy

The third objective—to inform digital learning innovation-related educational policy-making and action at national and sub-national levels in developing countries in Asia—was challenging to achieve given the short time frame of the project.

The DL4D Sub-Project Teams (i.e., those conducting in-country digital learning innovation studies) engaged with stakeholders—those directly involved in or affected by the intervention such as school leaders, teachers, students, parents, and so forth; education decision-makers and policy-makers at sub-national and national levels; the academic and practitioner communities, both local and international, and other like-minded individuals and groups—to a) secure buy-in for the project and foster a sense of local ownership; b) lay the ground work for sustaining promising practices; and c) more broadly, inform educational policy and practice. These stakeholder engagement activities included face-to-face meetings with education officials and other stakeholders; research site visits and demonstrations; self-organized conferences and knowledge-sharing events; presentations at national, regional, and international conferences and forums; and publications in books and journals.

The DL4D Network Team, on the other hand, engaged with regional and international organizations to facilitate knowledge-sharing and policy advocacy. We partnered with UNESCO Bangkok, BETT Asia, the Association of Asian Open Universities, the Head Foundation, the Consortium of School Networking, and the MEd Alliance to integrate into the programming of their annual events presentations and discussions on both the DL4D Network and the findings and outputs of our research activities.

Of these, the most fruitful was our engagement with the mEd Alliance, which holds an annual symposium in Washington, D.C. attended by between 200-300 researchers, practitioners, government officials, multilateral organizations, donor agencies, and private sector representatives. At the mEd Alliance Symposium in October 2017, we presented the work of our expert groups in a special DL4D

session. The response to the learning at scale presentations in particular was clear and immediate: There is an urgent need to examine and understand how digital learning can help address the challenge of ensuring quality learning at large scale towards attaining Sustainable Goal 4, i.e., to ensure inclusive and quality education and promote lifelong learning opportunities for all. Further, a critical bottleneck existed in the form of a massive shortage in qualified teachers in the Global South.

This led us to initiate what became the Teacher Professional Development at Scale (TPD@Scale) Coalition for the Global South. The inception meeting for the Coalition was co-hosted by DL4D and The Education University of Hong Kong (EDUHK) in January 2018 in Hong Kong. The meeting was attended by 31 international, regional, and national organizations, and since then we have formed an Advisory Board made up of the Coalition's first institutional members, namely: IDRC, EDUHK, USAID, DFID, the Korea Education Research Information Service (KERIS), and SUMMA (the Laboratory for Education Research and Innovation in Latin America and the Caribbean). FIT-ED, also a founding member, serves as the Coalition Secretariat.

The mission of the Coalition is to promote quality, equitable, and sustainable large-scale, ICT-mediated teacher professional development through collaboration, research, and implementation support. Its three objectives are: 1) to support governments and implementers across the Global South in the design, development, and deployment of quality, equitable, and sustainable TPD@Scale models; 2) to support research and knowledge-sharing on innovative TPD@Scale models and how to adapt them effectively and appropriately for a wide range of Global South contexts, and 3) harmonize efforts and investments in TPD@Scale in the Global South.

We launched the research program of the Coalition in July 2017 with a landscape review and research agenda-setting project co-funded by DL4D and USAID. The project is expected to be completed in March 2019. We have also engaged directly with the ministries of education of several countries, and/or their local partners, on providing technical assistance in co-designing, building, and testing their TPD@Scale models. These countries are the Philippines, Indonesia, Cambodia, Bangladesh, Colombia, Chile, Brazil, and Palestine.

Our research and technical assistance work is ongoing and will be supported in part by follow-on funding from IDRC.

See Annex 2 for a summary of knowledge-sharing and policy and practice advocacy activities at the network and sub-project levels. For more information on the Coalition, go to tpdatyscalecoalition.org.

Several of the sub-projects also gained traction in-country.

- The Philippine Department of Education is scaling up nationally to over 300,000 teachers the blended learning model for TPD piloted by FIT-ED. Preparations are underway for the scale-up, which is expected to begin in June 2019. The results of the independent evaluation of the pilot that was co-funded by DL4D and USAID (the pilot implementation funder) are being used to guide the deepening and refinement of the model, including the enhancement of the courseware, the redesign and strengthening of the orientation and engagement with school administrators, and the reorganization and improvement of learner support and assessment, among others.

- The ABRACADABRA study is being replicated in Nanjing, China with support from Nanjing Normal University and Jiangsu Normal University. The trials were run in 2018 over two academic semesters (six months) with four treatment schools and four control schools (n=1303; treatment: 837, control: 466). This research is ongoing.
- The blended learning for higher education in Cambodia project created a prototype model, with associated materials and capacity building activities, which will be integrated into the teacher strengthening component of the Cambodian Government's Higher Education Institutions Capacity Improvement Project, a \$90 million initiative funded by the World Bank, that is set to begin implementation in 2019.
- The micro-climate studies project using open source technology was scaled up in 2017 to ten more schools through a grant from The Head Foundation.
- The Co-Principal Investigators of the MOOC project in Nepal, Manoj Shakya and Sushil Shrestha of Kathmandu University, continue to work on MOOC-related research and development projects, and have been tasked by their University to lead their e-Learning Center.

V. Issues and Challenges

We encountered issues and challenges at each stage of the project. We highlight the most significant below.

Negotiating complex sub-granting arrangements. The sub-granting process, particularly involving institutions in multiple countries, was complex. The Network Hub Manager worked closely with the Sub-Project Leaders to ensure compliance with the legal, administrative, and financial requirements of both IDRC/FIT-ED and the respective recipient institutions. The Grant Administration Team of FIT-ED also made every effort to simplify sub-grant administration by providing templates, forms, checklists and the like for the various administrative and financial tasks and requirements, e.g., quarterly progress and financial reporting forms, procurement forms, contract templates, and checklist of required supporting documents, among others.

Managing the expectations of Sub-Project Teams and Expert Groups. Sub-project leaders and expert group members had differing expectations regarding sub-granting arrangements, requirements, procedures, and research and publication processes. Continuous discussions between the Network Hub Manager and/or the Network Lead and the sub-project leaders and expert group members were essential to the building of trust between partners.

Identifying digital learning experts with sufficient experience in developing countries. Identifying influential voices in highly specialized research areas to lead the expert groups who at the same time have sufficient experience working in developing countries proved to be challenging. The Network Team addressed this challenge in several ways:

1. by working closely with the expert group leads as they developed their main discussion papers to ensure that they highlighted issues relevant to the Global South while providing an analysis of key directions and concerns from a global perspective;
2. by providing research support, when needed, particularly in reviewing theoretical and empirical literature relevant to developing countries;
3. by inviting peer reviewers with experience in developing countries; and
4. by commissioning responses to the main discussion papers by experts from or working in developing countries in Asia, Africa, Latin America, and the Middle East.

Providing just-in-time and on-site mentoring to Sub-Project Teams. The Network Lead and the Theme Advisers continued to provide just-in-time and on-site mentoring to the Sub-Project Teams. While most of the mentoring was carried out virtually, the Network Team also made site visits to six research sites. These visits were invaluable in strengthening the rapport between the Sub-Project Teams and the Network Team. The final reports, and the conference papers/presentations by the Sub-Project Teams were all completed with the support of the Themes Advisers and the Network Team.

Harnessing the diverse range of expertise and experience of the Sub-Project and Network Teams. The mentoring relationship between Sub-Project Teams and their Theme Advisers harnessed the diversity of expertise and experience of mentors and mentees. Sub-Project Team members have a deep understanding of the research context and crucially, of how certain interventions and methodologies were more appropriate than others in the local context. Theme Advisers provided guidance informed by current developments in theory and methods in the field and by best practices in research.

Responding to the varied and changing needs of the Sub-Project Teams. The nature and level of mentoring required by the Sub-Teams varied according to the level of expertise and experience of team members, both in doing research and in the specialized area of the research being done. Moreover, as the Sub-Teams went through the different stages of their research, the support they required changed accordingly. Clear and open communication between the Sub-Project Teams and the Network Team was critical to effective and timely mentoring. Note that not all the support provided was technical or research-related; administrative support was provided as well. The Network Team guided the Sub-Project Teams through the procurement process, the reporting of expenses and the financial report at the end of the Sub-Project.

VI. Overall Assessment and Recommendations

By and large, the DL4D project achieved its intended objectives. First, it has contributed to the body of knowledge on digital learning in developing countries, specifically in the areas of learning at scale, teacher professional development at scale, learning analytics, digital game-based learning, digital learning for early grade literacy, and the cost-effectiveness of digital learning innovations. Second, the pairing of Global South research teams with Global North researchers in both the sub-projects and the expert groups offered professional learning opportunities on both sides towards a better understanding of the role digital learning can play in strengthening the reach, quality, and efficiency of education

systems in the Global South. Third, while DL4D began as a regional project with Asia as its main focus, over the 33-month period of project implementation, our network of institutional and individual partners has expanded worldwide and has seeded an international Coalition that in the coming months and years will engage directly with governments, educators, donors, and other partners to initiate and support efforts to create effective TPD@Scale models across the Global South.

We conclude this report by highlighting two critical lessons learned that also serve as recommendations for future research and development projects in digital learning for development.

- 1) ***Flexibility and responsiveness.*** The DL4D Network, as a grant-funded project, benefitted greatly from a degree of flexibility in programming permitted by IDRC, which allowed us to be responsive to emerging themes and issues. This is particularly true for our work in learning at scale and learning analytics, where the contours of the research and development space in the Global South is yet to be fully defined. It enabled us, for example, to nimbly respond to the expressed need for supporting and harmonizing efforts in addressing the quality-scale gap in teaching and teacher professional development.
- 2) ***Multidisciplinarity.*** While north-south and south-south collaborations were central to the DL4D network-building approach, we did not fully account for the multidisciplinary demands of digital learning research, especially as the focus of the investigations became more specialized and niche. One particular concern that emerged in the course of the project was the composition of teams that could undertake high quality research ***grounded in Global South contexts*** on emerging technologies in support of learning at scale and learning analytics, on the one hand, and cost effectiveness of developing country implementations of such emerging technologies, on the other.

ANNEX 1
Summary of Research Outputs

DIGITAL LEARNING INNOVATION STUDIES		
No	Title	Research Team
1	MOOCS as an Alternative for Teacher Professional Development: Examining Learner Persistence in One Chinese MOOC	Wang, Q., Chen, B., & Fan
2	MOOCs for Higher Education in Nepal	Shakya, M. & Shrestha, S.
3	An Evaluation of ELLN Digital in the Philippines	Oakley, G. & King, R.
4	Examining the Effects of ABRACADABRA, a Web-Based Literacy Program on Primary School Students in Rural China	Cheung, A., Guo, X, Mak, B., Abrami, P., & Wade, A.
5	Developing a Student Support System for Undergraduate Students in Distance Education through Learning Analytics (Philippines)	Reyes, C.
6	Mobile Gamification-based Language Learning in Mongolia: Toward a Participatory Learning Model	So, H. J., Shin, C., & Seo, M.
7	Investigating the Impact of Game-Based Learning on Tablets in Mathematics for Primary School Students (Pakistan)	Malik, F. & Ahmad, M. M.
8	An Evaluation of the Integration of M-learning in Total Reading Approach for Children Plus: Enhancing Literacy of Early Grade Students in Cambodia	Oakley, G. & Pegrum, M.
9	EduApp4Syria Impact and Technical Evaluations (Jordan)	Koval, N. & Plass, J.; Comings, J.
10	A Cost Effectiveness Study of the ABRACADABRA Implementation in Hunan, China	Vrasidas, C., Hadjisofocli, D., Morala, R., Guo, X.
11	Microclimate Studies in a STEM-Based Curriculum Using Open-Source Hardware and Software (Indonesia)	Lim, K. Y. T. & Suwitodirdjo, A. W.

EXPERT PAPERS AND META-REVIEWS		
No	Title	Authors
	Learning at Scale for the Global South	
1	<i>How could digital learning at scale address the issue of equity in education?</i>	Laurillard, D., Kennedy, E., & Wang, T.
2	<i>Response from Latin America</i>	Escorcia, G.
3	<i>Response from Africa</i>	Hooker, M.
	Learning Analytics for the Global South (available also in Spanish translation)	
4	<i>Include us all! Directions for adoption of learning analytics in the global south</i>	Gasevic, D.
5	<i>Response from Africa</i>	Prinsloo, P.
6	<i>Response from Mainland China</i>	Chen, B., & Fan, Y.
7	<i>Response from South East Asia</i>	Rodrigo, M. M. T.
8	<i>Response from Latin America</i>	Cobo, C., & Aguerrebere, C.
	Digital Game-Based Learning for the Global South	
9	<i>The potential of digital game-based learning for improving education in the global south</i>	Dede, C.
10	<i>Response from South Asia</i>	Ahmad, F., & Tsai, C.-C.
11	<i>Response from the Middle East</i>	Koval, N.

	Cost Effectiveness of Digital Learning Innovations	
12	<i>Cost-effectiveness of digital learning for development: Towards a systematic, systemic, and sustainable framework</i>	Vrasidas, C.
13	<i>The cost-effectiveness of digital learning: Lesson from educational experiences in Africa</i>	Butcher, N., & Hoosen, S.
14	<i>An activity-based costing approach to planning digital learning in the Global South</i>	Kennedy, E.
	Routledge International Handbook of Schools and Schooling in Asia – Section: Digital learning for development of Asian schools	Lim, C. P. (section editor)
15	<i>Digital learning for developing Asian countries: achieving equity, quality and efficiency in education</i>	Lim, C. P., Tinio, V. L., Smith, M., & Bhowmik, M. K.
16	<i>Intelligent tutoring systems in developing countries in Asia: Current status, challenges and opportunities</i>	Chen, B., Chen, C., Hong, & Chai
17	<i>A systematic literature review of game-based learning and gamification research in Asia: The synthesized findings and research gap</i>	So, H. J. & Seo, M.
18	<i>Learning analytics: Approaches and cases from Asia</i>	Bhagat, K. K., Rodrigo, M. M. T., & Chang, C.-Y.
19	Girls and ICT in education: An overview	So, H. J.

POLICY AND PRACTICE GUIDES		
No	Title	Authors
1	Guide to developing digital games for early grade literacy for developing countries	Lim, K. Y. T., Comings, J., Lee, R., Yuen, M. D., Hilmy, A., Chua, D., & Song, B. H.
2	Policy brief: The digital multiplier model for teacher professional development at scale	Laurillard, D., & Kennedy, E

ANNEX 2
Knowledge-Sharing and Policy and Practice Advocacy Activities

Project/Sub-Project	Event	Dates	Location	Role/Output
DL4D Network	Consortium of School Networking-UNESCO International Symposium 2016	2016.04.06	Washington, D.C., USA	Panelist
	International University Carnival on eLearning: eLearning Empowering Innovation	2016.09.20-21	Johor Bahru, Malaysia	Speaker/Presentation
	17 th International Conference for Education Research: Future Education Design – Creativity, Personality and Safety.	2016.10.12-14	Seoul, South Korea	Speaker/Presentation
	Asian Association of Open Universities Conference 2016	2016.10.25-29	Pasig City, Philippines	Speaker/Presentation
	BETT Asia 2016	2016.11.15-16	Kuala Lumpur, Malaysia	Speaker/Presentations
	UNESCO Bangkok Regional Seminar for Resource Distribution and Training Centres	2016.11.23-25	Bangkok, Thailand	Speaker and Facilitator/ Presentations
	Learning and Teaching Expo 2016	2016.12.08	Hong Kong	Speaker/Presentation
	2 nd Asian Development Bank - The HEAD Foundation Professional Learning Programme: Improving Learning Outcomes through Curriculum, Teaching and Learning.	2017.08.24	Singapore	Speaker/Presentation
	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speaker/Presentation & Booth
	10 th Innovative Learning Environment Conference	2017.10.12-13	Nicosia, Cyprus	Speaker/Presentation
	TPD@Scale Coalition for the Global South Inception Meeting	2018.01.17-19	Hong Kong	Organizer/Presentations
	ADB-UNESCO South Asia Regional Symposium on ICT for Education	2018.02.26-28	Colombo, Sri Lanka	Speaker/Presentation & Booth
	TPD@Scale Colombia Kick-Off Meeting	2018.05.15-18	Medellin, Colombia	Co-Organizer/ Presentations
	Connected Learning at Scale: An International Symposium	2018.08.08-09	Mumbai, India	Speaker/Presentation
	TPD@Scale Indonesia Inception Meeting	2018.08.22-23	Quezon City, Philippines	Organizer/Presentation
	TPD@Scale Philippines Launch and ELLN Digital National Scale-Up Implementation Workshop	2018.08.28	Quezon City, Philippines	Organizer/Presentations
	TPD@Scale Cambodia Orientation Workshop	2018.08.30	Phnom Penh. Cambodia	Organizer/Presentations

Learning at Scale – China	1 st MOOC Forum for Doctoral Students- PKU	2016.10.17-19	Beijing, China	Organizer/Papers & Proceedings
	Learning with MOOCs Conference 2016	2016.10.6-8	Philadelphia, USA	Speaker/Paper & Presentation
	Asian Association of Open Universities Conference 2016	2016.10.25-29	Pasig City, Philippines	Speaker/Keynote
	LAK 2017: 7 th International Conference on Learning Analytics	2017.3.15	Vancouver, Canada	Speaker/Paper & Presentation
	Internet+ Education Forum for teacher	2017.3.18	Beijing, China	Speaker/Keynote
	4 th PKU Forum on Innovative ICT in Education	2017.1.14	Beijing, China	Speaker/Keynote
	2 nd MOOC Forum for Doctoral Students- PKU	2017.7.12-15	Beijing, China	Organizer/Papers & Proceedings
	10 th Innovative Learning Environment Conference	2017.10.12-13	Nicosia, Cyprus	Speaker /Presentation
	E-Learn: World Conference on E-Learning	2017.10.17	Vancouver, Canada	Speaker /Paper & Presentation
	ADB-UNESCO South Asia Regional Symposium on ICT for Education	2018.02.26-28	Colombo, Sri Lanka	Speaker /Presentation
Learning at Scale – Nepal	IT4D Conference 2016	2016.08	Kathmandu, Nepal	Speaker /Presentation
	IT4D Conference 2017	2017.07	Kathmandu, Nepal	Speaker/Paper & Presentation
	2 nd MOOC Forum for Doctoral Students- PKU	2017.7.12-15	Beijing, China	Speaker/Presentation
	International Conference on Open and Innovative Education 2017	2017.07.12-14	Hong Kong	Speaker/Paper & Presentation
	Artha Sarokar Episode 114	2017.09	Kathmandu, Nepal	TV interview/video
Learning at Scale – Philippines	10 th Innovative Learning Environment Conference	2017.10.12-13	Nicosia, Cyprus	Speaker /Presentation
	International Workshop: Challenges and Opportunities of Digital Learning in Latin America	2017.11.20-21	Medellin, Colombia	Panelist
	TPD@Scale Coalition for the Global South Inception Meeting	2018.01.17-19	Hong Kong	Speaker/Presentation
	TPD@Scale Colombia Kick-Off Meeting	2018.05.15-18	Medellin, Colombia	Speaker/Presentation
	TPD@Scale Indonesia Inception Meeting	2018.08.22-23	Quezon City, Philippines	Speaker/Presentation
	TPD@Scale Philippines Launch and ELLN Digital National Scale-Up Implementation Workshop	2018.08.28	Quezon City, Philippines	Speaker/Presentation

	TPD@Scale Cambodia Orientation Workshop	2018.08.30	Phnom Penh. Cambodia	Speaker/Presentation
	Oakley, G., & King, R. (2018). <i>Digital courseware with communities of practice: A blended learning model to improve teacher knowledge about early literacy</i> . Manuscript submitted for publication.			Publication
Learning at Scale – Hunan, China	Presentation to the Hunan Education Bureau	2017.07	Shaoshan, Hunan	
	Presentation to Nanjing Normal University and primary school principals	2017.08	Nanjing	
	Annual Seminar – CUHK	2017.02	Hong Kong	Speaker/Presentations
	International Symposium on Language, Linguistics, Literature and Education	2017.08.16-18	Osaka, Japan	Speaker/Paper & Presentation
	BETT Asia 2017	2017.11.15-16	Kuala Lumpur, Malaysia	Speaker/Presentation
Learning at Scale – Cambodia	BETT Asia 2017	2017.11.15-16	Kuala Lumpur, Malaysia	Speaker/Presentation
	National Workshop for Blended Learning in Cambodian Universities	2018.02.5-6	Phnom Penh, Cambodia	Speaker/Presentation
	International Conference of Educational Technology	2018.05.25-27	Seoul, South Korea	Speaker/Presentation
	TPD@Scale Cambodia Orientation Workshop	2018.08.30	Phnom Penh. Cambodia	Speaker/Presentation
Learning at Scale – Expert Group	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speakers/Presentations
DGBL – Mongolia	Redesigning Pedagogy International Conference	2017.05	Singapore	Speaker/Paper & Presentation
DGBL – Pakistan	Meeting with Head of Planning Commission on Future Educational Reforms	2016.11		
	Meeting with Advisors to Minister of Education			
	http://ite.seecs.nust.edu.pk/root/?page_id=4904			Project website
	Gamifying Mathematical Education to Foster Flexible Learning in Out-of-School Children of Pakistan (http://ite.seecs.nust.edu.pk/root/?p=5048)			Blog post
	Impact of Instructional Designing for Enhancing Students' Motivation in Digital Game-Based Learning (http://ite.seecs.nust.edu.pk/root/?p=5055)			Blog post
	Open house event to share research results with a wide-range of local stakeholders	2016.12.20	Islamabad, Pakistan	Organizer/Speaker

	BETT Asia 2017	2017.11.15-16	Kuala Lumpur, Malaysia	Speaker/Presentation
DGBL - Jordan	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speaker/Presentation
	The Power of Digital Gaming for Literacy: Findings of the EduApp4Syria Impact and Technical Evaluations	2018.03.20	Online	Webinar
DGBL - Guidebook	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speaker/Presentation
DGBL - Cambodia	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speaker/Presentation
Learning Analytics - Philippines	Asian Conference on Education and International Development	2016.04.03-06	Kobe, Japan	Speaker/Presentation
	Asian Association of Open Universities Conference 2016	2016.10.25-29	Pasig City, Philippines	Speaker/Presentation
Learning Analytics – Expert Group	Asian Association of Open Universities Conference 2016	2016.10.25-29	Pasig City, Philippines	Speaker/Presentation
	Mobiles for Education Alliance Symposium	2017.10.5-6	Washington, D.C., USA	Speakers/Presentations
Open Source/Makerspace - Indonesia	STEM and Maker Motes Seminar, Seoul National University	2016.11.03	Seoul, Korea	Speaker/Presentation
	World Association of Lesson Studies Conference	2017.11.25	Nagoya, Japan	Speaker/Presentation
	Lim, K. Y. T., A. Hilmy and M. D. Yuen, “Learning science authentically through investigating the local environment” in Chai, C. S., J. H. L. Koh and Y. H. Teo (Eds.) Technology-enhanced 21st century learning, Singapore: Pearson, pp 265-283 2016 (Invited Chapter).			Publication
	Lim, K. Y. T., “Journeys in the making: supporting tinkering through Maker Motes” in Lim, K. Y. T. (Ed.) Landscapes of participatory making, modding and hacking: maker culture and makerspaces, Cambridge Scholars, pp 83-105 2017.			Publication